Docket No.: 242931US2

COMMISSIONER FOR PATENTS ALEXANDRIA, VIRGINIA 22313

RE: Application Serial No.: 10/663,782

Applicants: Masato YOKOYAMA Filing Date: September 17, 2003

For: OPTICAL SCANNER, OPTICAL-PATH

ADJUSTMENT METHOD, AND IMAGE FORMING

APPARATUS Group Art Unit: 2861 Examiner: PHAM, H. OBLON
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COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

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Respectfully submitted,

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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF : DATE ALLOWED: JANUARY 9, 2007

MASATO YOKOYAMA : EXAMINER: PHAM, H.

SERIAL NO: 10/663,782

FILED: SEPTEMBER 17, 2003 : GROUP ART UNIT: 2861

FOR: OPTICAL SCANNER, OPTICAL-PATH ADJUSTMENT METHOD, AND IMAGE FORMING APPARATUS

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

COMMISSIONER FOR PATENTS ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant acknowledges with appreciation the indication of allowability of the claimed invention. In response to the Examiner's Statement of Reason for Allowance in the Notice of Allowance of January 9, 2007, Applicant respectfully submits the following comments.

In the Examiner's Statement of Reasons for Allowance on page 2 of the Notice of Allowance mailed January 9, 2007, paragraph 1 states:

The following is an examiner's statement of reasons for allowance: Claims 1, 6-8, 11-12, 20-21 and 23 are allowed at least for the reason that the prior art of record does not teach or reasonably suggest the optical scanner for an image forming apparatus comprising a light source emitting a light beam, at least one final-stage reflection mirror having a reflection surface, which reflects a reflected light beam from a polygon mirror directly to the scanned surface of the image support, the reflection mirror surface having a first axis parallel to a main-scanning, and a second axis perpendicular to the first axis, an optical element adjusting a position of a scanning line in a subscanning direction, the optical element having a beam-

incidence surface, a third axis parallel to the main- scanning direction on the beam-incidence surface, and a fourth axis perpendicular to the third axis and along a beam-incidence direction, a first adjustment unit provided to rotate said at least one final-stage reflection mirror around the second axis in order to attain uniformity of a scanning speed of the optical scanner in the main scanning direction, a second adjustment unit provided to rotate said optical element around the fourth axis in order to correct an inclination of the scanning line in the sub-scanning direction to a desired position of the scanning line, at least one of the first adjustment unit and the second adjustment unit being provided with an electrically driven actuator, a detection unit detecting an error of the scanning speed of the optical scanner, and a control unit controlling driving of the actuator based on the scanning speed error detected by the detection unit, wherein said at least one finalstage reflection mirror is a half mirror, and the detection unit detects the error of the scanning speed based on a difference of detection times of the light beam detected by a plurality of photodetectors, said plurality of photodetectors being arranged on a back surface of the half mirror apart from one another at a given interval, as set forth in the claimed combination.

However, although the above statement may be accurate with respect to independent Claims 1 and 20, it is respectfully noted that independent Claims 21 and 23 do not include all of the elements recited above. For example, Claims 21 and 23 recite "first adjustment means for rotating," not "a first adjustment unit provided to rotate." Accordingly, it is respectfully submitted that the above-quoted statement applies at most to independent Claims 1 and 20 and not to either of independent Claims 21 and 23.

In the Examiner's Statement of Reasons for Allowance on page 3 of the Notice of Allowance mailed January 9, 2007, paragraph 1 further states:

Claims 2-4 and 22 are allowed at least for the reason that the prior art of record does not teach or reasonably suggest an optical scanner for an image forming apparatus comprising a light source emitting a light beam, at least one final-stage reflection mirror having a reflection surface, which reflects a reflected light beam from a polygon mirror directly to the scanned surface of the image support, an optical element adjusting a position of a scanning line in a sub-scanning direction, the optical element having a beam-incidence surface, a first axis parallel to the main-scanning direction on the beam-incidence surface, and a second axis perpendicular to the first axis and along a beam-incidence direction, a first supporting unit supporting a portion of said at least one final-stage reflection mirror, a first adjustment unit provided to rotate said at least one final-stage reflection mirror about the first supporting unit in a direction perpendicular to the reflection surface and change a distance

between the reflection surface and the image support surface in order to attain uniformity of a scanning speed of the optical scanner in the main scanning direction, a second supporting unit supporting a portion of said optical element, a second adjustment unit provided to rotate said optical element about the second supporting unit in the sub-scanning direction in order to correct an inclination of the scanning line in the sub-scanning direction to a desired position of the scanning line, at least one of the first adjustment unit and the second adjustment unit being provided with an electrically driven actuator, a detection unit detecting an error of the scanning speed of the optical scanner, and a control unit controlling driving of the actuator based on the scanning speed error detected by the detection unit, wherein said at least one final-stage reflection mirror is a half mirror, and the detection unit detects the error of the scanning speed based on a difference of detection times of the light beam detected by a plurality of photodetectors, said plurality of photodetectors being arranged on a back surface of the half mirror apart from one another at a given interval, as set forth in the claimed combination.

However, although the above statement may be accurate with respect to independent Claim 2, it is respectfully noted that independent Claim 22 does not include all of the elements recited above. For example, Claim 22 recites "first adjustment means for rotating," not "a first adjustment unit provided to rotate." Accordingly, it is respectfully submitted that the above-quoted statement applies at most to independent Claim 2 and not to independent Claim 22.

Respectfully submitted,

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